CLAIMS

What is claimed is:

1   1.   A method for dynamically monitoring resources, the method
2 comprising the operations of:
3   (a)   receiving at a snapshot module a request from a user to monitor a
4   set of specified resources;
5   (b)   requesting, via the snapshot module, a monitor request module to
6   create at least one monitor;
7   (c)   creating at least one monitor using the monitor request module;
8   (d)   loading into the monitor parameters of the specified resources;
9   (e)   creating first objects corresponding to a snapshot of the specified
10   resources based on the loaded parameters, the snapshot
11   representing states of the specified resources at a point in time;
12   and
13   (f)   monitoring the first objects using the monitor.

1   2.   The method of claim 1 wherein the specified resources include at
2 least one of the following: a file object, a registry object, and a set of all
3 processes that are active while the monitor is active.

1   3.   The method of claim 1 further comprising:
2   (g)   providing to the user a link to the monitor.

1   4.   The method of claim 1 wherein operation (e) comprises:
2   creating an instantiation of the snapshot module.

1   5.   The method of claim 1 further comprising:
2   (g)   updating the set of first objects upon receiving a notification of a
3 change to at least one of the specified resources, using the monitor; and
4   (h)   logging information related to the change.

5   6.   The method of claim 5 further comprising:

6   (i)   creating a new object representing a current state of the specified

7   resource having the change; and

8   (j)   comparing the new object to the corresponding first object

9   representing a previous state of the specified resource to determine the

10   change.

11   7.   The method of claim 1 wherein the specified resources are of

12   different types, and wherein operation (c) comprises:

13   creating different monitors to correspond to the different types of

14   specified resources;

15   and wherein operation (e) comprises:

16   creating different sets of first objects corresponding to the different types

17   of specified resources, each of the different sets of first objects representing

18   states of specified resources of a corresponding type and being maintained by

19   a corresponding monitor.

1   8.   The method of claim 7 further comprising:

2   providing to the user a link to each of the monitors.

1   9.   The method of claim 1 wherein the monitor is implemented as

2   one of a COM object, a thread, and a process.

1   10.   The method of claim 1 wherein the monitor request module is

2   initiated by a resource monitor service.

1   11.   The method of claim 10 wherein, after being initiated, the monitor

2   request module restarts all restartable monitors.

1   12.   The method of claim 1 further comprising:

2   determining, using the monitor request module, whether the specified

3   resources are already being monitored by an active monitor previously created;

4   and

5   if the specified resources are already being monitored by an active

6   monitor previously created, setting the currently created monitor to error status

7   using the monitor request module.

1   13.   An article of manufacture comprising:

2   a machine-accessible medium including data that, when accessed by a

3   machine, causes the machine to perform operations comprising:

          4   (a)   receiving at a snapshot module a request from a user to monitor a

          5   set of specified resources;

          6   (b)   requesting, via the snapshot module, a monitor request module to

          7   create at least one monitor;

          8   (c)   creating at least one monitor using the monitor request module;

          9   (d)   loading into the monitor parameters of the specified resources;

        10   (e)   creating first objects corresponding to a snapshot of the specified

        11   resources based on the loaded parameters, the snapshot

        12   representing states of the specified resources at a point in time;

        13   and

        14   (f)   monitoring the first objects using the monitor.

1   14.   The article of manufacture of claim 13 wherein the specified

2   resources include at least one of the following: a file object, a registry object,

3   and a set of all processes that are active while the monitor is active.

1   15.   The article of manufacture of claim 13 wherein the operations

2   further comprise:

          3   (g)   providing to the user a link to the monitor.

1   16.   The article of manufacture of claim 13 wherein operation (e)

2   comprises:

3   creating an instantiation of the snapshot module.

1   17.   The article of manufacture of claim 16 wherein the operations

2   further comprise:

          3   (g)   updating the set of first objects upon receiving a notification of a

4   change to at least one of the specified resources, using the monitor; and

5   (h)   logging information related to the change.

6   18.   The article of manufacture of claim 17 wherein the operations
7   further comprise:

8   (i)   creating a new object representing a current state of the specified
9   resource having the change; and

10   (j)   comparing the new object to the corresponding first object
11   representing a previous state of the specified resource to determine the
-12   -change.

13   19.   The article of manufacture of claim 13 wherein the specified
14   resources are of different types, and wherein operation (c) comprises:

15   creating different monitors to correspond to the different types of
16   specified resources;

17   and wherein operation (e) comprises:

18   creating different sets of first objects corresponding to the different types
19   of specified resources, each of the different sets of first objects representing
20   states of specified resources of a corresponding type and being maintained by
21   a corresponding monitor.

1   20.   The article of manufacture of claim 19 wherein the operations
2   further comprise:

3   providing to the user a link to each of the monitors.

1   21.   The article of manufacture of claim 13 wherein the monitor is
2   implemented as one of a COM object, a thread, and a process.

1   22.   The article of manufacture of claim 13 wherein the operations
2   further comprise:

3   initiating the monitor request module using a resource monitor service.

1   23.   The article of manufacture of claim 22 wherein the operations
2   further comprise:

3   restarting all restartable monitors using the monitor request module.

1   24.   The article of manufacture of claim 13 wherein the operations
2   further comprise:

3   determining, using the monitor request module, whether the specified
4   resource is already being monitored by an active monitor previously created;
5   and

6   if the specified resource is already being monitored by an active monitor
7   previously created, setting the currently created monitor to error status using
8   the monitor request module.

1   25.   A system comprising:
2   a processor; and
3   a memory coupled to the processor, the memory containing program
4   code that, when executed by the processor, causes the processor to perform
5   operations comprising:
6   (a)   receiving at a snapshot module a request from a user to monitor a
7   set of specified resources;
8   (b)   requesting, via the snapshot module, a monitor request module to
9   create at least one monitor;
10   (c)   creating at least one monitor using the monitor request module;
11   (d)   loading into the monitor parameters of the specified resources;
12   (e)   creating first objects corresponding to a snapshot of the specified
13   resources based on the loaded parameters, the snapshot
14   representing states of the specified resources at a point in time;
15   and
16   (f)   monitoring the first objects using the monitor.

1   26.   The system of claim 25 wherein the specified resources include at
2   least one of the following: a file object, a registry object, and a set of all
3   processes that are active while the monitor is active.

1   27.   The system of claim 25 wherein the operations further comprise:
2   (g)   providing to the user a link to the monitor.

1   28.   The system of claim 25 wherein operation (e) comprises:

2   creating an instantiation of the snapshot module.

1   29.   The system of claim 28 wherein the operations further comprise:

2   (g)   updating the set of first objects upon receiving a notification of a

3   change to at least one of the specified resources, using the monitor; and

4   (h)   logging information related to the change.

5   30.   The system of claim 29 wherein the operations further comprise:

6   (i)   creating a new object representing a current state of the specified

7   resource having the change; and

8   (j)   comparing the new object to the corresponding first object

9   representing a previous state of the specified resource to determine the

10   change.

11   31.   The system of claim 25 wherein the specified resources are of

12   different types, and wherein operation (c) comprises:

13   creating different monitors to correspond to the different types of

14   specified resources;

15   and wherein operation (e) comprises:

16   creating different sets of first objects corresponding to the different types

17   of specified resources, each of the different sets of first objects representing

18   states of specified resources of a corresponding type and being maintained by

19   a corresponding monitor.

1   32.   The system of claim 31 wherein the operations further comprise:

2   providing to the user a link to each of the monitors.

1   33.   The system of claim 25 wherein the monitor is implemented as

2   one of a COM object, a thread, and a process.

1   34.   The system of claim 25 wherein the operations further comprise:

2   initiating the monitor request module using a resource monitor service.

1   35.   The system of claim 34 wherein the operations further comprise:

2   restarting all restartable monitors using the monitor request module.

1   36.   The system of claim 25 wherein the operations further comprise:

2   determining, using the monitor request module, whether the specified

3   resource is already being monitored by an active monitor previously created;

4   and

5   if the specified resource is already being monitored by an active monitor

6   previously created, setting the currently created monitor to error status using

7   the monitor request module.